

KUZAKOVA, M.V., kandidat meditsinskikh nauk; SAZONOV, A.M.

Anatomical basis for cutting out calf muscle flaps for grafts in chronic osteomyelitis. Vest. khir. 76 no.11:55-60 '55 (MIRA 9:4)

1. Iz kafedry operativnoy khirurgii (zav.-professor A.P. Nadein)  
Leningradskogo instituta usovershenstvovaniya vrachey imeni S.M.  
Kirova.

(OSTEOMYELITIS, surg.

muscle flap transpl. to bone lesions)

(MUSCLES, transpl.

in osteomyelitis, flap transpl. to bone lesions)

(TRANSPLANTATIONS

musc. flaps, to bone lesions in osteomyelitis)

KUZAKOVA, M.V.

Method of studying intramuscular blood supply by means of marginal  
roentgen rays. Khirurgiia 32 no.1:85-87 J '56 (MLRA 9:6)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii  
(zav.-prof. A.P. Nadein) Gosudarstvennogo ordena Lenina instituta  
usovershenstvovaniya vrachey imeni S.M. Kirova.

(ANGIOGRAPHY

intramusc., marginal x-ray)

(MUSCLES, blood supply

x-ray, marginal)

KUZAKOVA, M.V., kand.med.nauk

Influence of acute ischemia on the shin muscles in the application  
of a hip tourniquet. Sbor. nauch. trud. GIDUV no. 14:103-107 '58.  
(MIRA 13:10)

1. Iz kafedry operativnoy khirurgii gosudarstvennogo instituta  
dlya usovershenstvovaniya vrachev (zav. kafedroy prof. A.P.  
Nadein).

(BLOOD—CIRCULATION, DISORDERS OF) (MUSCLE)

DABROWSKI, Witold; KUZAN, Czesław

Surgical treatment of biliary calculi. Wiad. lek. 18 no.20:  
1585-1590 15 O '65.

1. Z Oddz. Chir. Miejskiego Szpitala w Tomaszowie-Mazowieckim  
(Ordynator: dr. W. Dabrowski).

KUZANOV, A., 1974.

Single-layer keramzit concrete water wall panels. (MIRA 1717)  
no. 5:12-13 \*64

KUZANOV, A.B. (g.Kuybyshev); KHARITONOV, A.I. (g.Kuybyshev)

Constructing bridge supports on high pile grillage foundations.  
Osn., fund.i mekh.grun. no.5:18-20 '59. (MIRA 12:12)  
(Bridges, Pile)

KUZANOV, Yo.I.; KANDELAKI, D.P., red. 1zd-va; KHUTSISHVILI, V.V.,  
tekhn. red.

[Closed lesions of the liver and spleen] Zakrytye povrezhde-  
niia pecheni i selezenki. Tbilisi, Gos.izd-vo "Sabchota  
Sakartvelo," 1962. 174 p. (MIRA 15:9)

(LIVER--WOUNDS AND INJURIES)  
(SPLEEN--WOUNDS AND INJURIES)

KUZANYAN, E.

Third All-Union Congress of Soviet Architects. Na stroi. dos.  
no.7:3 of cover J1 '61. (MIRA 14:8)  
(Architecture--Congresses)



KUZANOV, G.

Bonus payments for putting building projects into operation before  
completion. Fin. SSSR 17 no.10:58-60 0 '56. (MLRA 9:11)  
(Construction industry) (Bonus system)

KUZANOV, S. G.

"New Methods for the Electric Calculation of Agricultural High-Voltage Networks with Steel Lines."

Dissertation for the Degree of Candidate of Technical Sciences, defended at Moscow Institute for Mechanization and Electrification of Agriculture.  
21 December 1951. (Elektrichestvo, 1956, Nr 4, pp. 92-93).

KARAPETYAN, Saak Karapetovich, akad.; KUZANYAN, M., red.; CHANCHAPANYAN, E.,  
tekhn. red.

[Biological principles underlying the increase of productivity  
and ways for the intensification of poultry raising in the  
Armenian S.S.R.] Biologicheskie osnovy povysheniya produktiv-  
nosti i puti intensivizatsii ptitsevodstva v Armianskoi SSR,  
Erevan, Armsel'khozgiz, 1962. 405 p. (MIRA 16:4)

1. Akademiya nauk Armyanskoy SSR (for Karapetyan).  
(Armenia--Poultry)

KUZNETSOV, N.I.

Some data on the characteristics of the state of the uterus in sterility. Akush. i g n. no.1:53-57 '63.

1. Iz otdeleniya neoperativnoy ginekologii (zav. - N. I. Kuznetsov, Mayr-1') Instituta akusherstva i ginekologii (dir. - prof. I. I. Petrov-Maslakov) AN SSSR.

KUZAVOVA, N.I.

Intravasation during hysterosalpingography. Vest. rent. i rad.  
39 no.1:51-54 Ja-F '64. (MIRA 18:2)

1. Otdeleniye neoperativnoy ginekologii (zav. - prof. Ye.P. Mayzel') Instituta akusherstva i ginekologii AMN SSSR, Leningrad.

ALOVA, G.; KUZAVSKIY, M.

Tractor train goes into the forest. IUn.tekh. 2 no.1:14-15  
Ja '58. (MIRA 11:1)  
(Tractor trains)

KUZAVSKIY, M.D., NEUSHEV, S.M.

Standard design for a plant manufacturing polymer materials.  
Stroil. mat. 10 no.6:4-7 In '64.  
(MIRA 17 10)

KUZBA. Antoni

Substantial changes in the activity of trade unions. Praca  
zabezp spol 4, no.2:59-64 '62.



KUZBASOV, G. A.

KUZBASOV, G. A. Gorn e bogatstva Sibirskogo Kraia. Moskva, Gosizdat, 1929. 111 p.  
(Biblioteka sotsial'no- ekonomicheskikh znani.)

"Spisok glavneishikh literaturnykh istochnikov": p. 109.

DLC: TH109.K87

So: LC, Soviet Geography, Part II, 1951/Unclassified.

KUZBASOV, G. <sup>1)</sup> inzhener

Discontinuous work week in mining. Mast. uel. 4 no.2:17-18 P '55.  
(Donets Basin--Coal mines and mining) (MLRA 8:6)

TEKUCHEV, N.F., gornyy inzh.; KUZBASOV, G.A., gornyy inzh.

Twin entry system mining at the "Proletarskaya-Glubokaya" mine.  
Ugol' Ukr. 3 no.8:41-43 Ag '59. (MIRA 12:12)

1. Donetskiy ugol'nyy institut.  
(Donets Basin--Coal mines and mining)

KUZDEKOV, K.

Development of animal husbandry in the Tashkent suburban zone  
during the period of rapid development of agriculture. Nauch.  
trudy TashGU no.206:33-53 '62. (MIRA 16:6)

(Tashkent region—Stock and stockbreeding)

1. Institute of Animal Physiology and Biochemistry, Academy of Sciences, Moscow

Ammonium lactate as a source of nitrogen in the diet of  
Wistar-Kyoto rats. *Zootekhn. R.* 1971, 14: 171.

Studies on the use of ammoniated feedstuffs in feeding experiments.  
*Ist. 16* 1971, 14: 181.

2. Institute of Animal Physiology and Biochemistry, Academy of Sciences, Moscow

L 01179-66

ACCESSION NR: AP5025872

PO/0022/65/000/005/0146/0150

AUTHOR: Kuzdrzal-Kicki, Jerzy (Engineer)

TITLE: Electronic measurement apparatus at the 34th International Fair in Poznan

SOURCE: Przegląd telekomunikacyjny, no. 5, 1965, 146-150

TOPIC TAGS: electronic measurement, electronic test equipment, voltmeter, electronic oscillator, microwave component

ABSTRACT: The article describes several items of interest which were exhibited at the 34-th Annual International Poznan Fair. Special attention is devoted here to electronic measurement apparatus such as a frequency deviation meter, a digital voltmeter, 2 regulated RC-type oscillators, a decade oscillator, a ferrite-type modulator, an attenuator standard, a microwave ring resonator power amplifier, a heterodyne microvoltmeter, a narrow-band and a wide-band microvoltmeter, an audio oscillator, an oscillosynchroscope and a wide-band synchroscope with various attachments. The latter set was designed and built by the Bureau of Nuclear Engineering Apparatus (Biuro Urzadzen' Techniki Jadro-

Card 1/2

L 01179-66

ACCESSION NR: AP5025872

2  
wej). The last item on the list here is an oscillator with two time-base sweep generators for producing time lags over a wide range. Orig. art. has: 11 figures and 3 tables.

ASSOCIATION: Instytut Tele- i Radiotechniczny (Institute of Telecommunication and Radioengineering) 41

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NR REF SOV: 000

OTHER: 000

JPRS

Card 2/2

KULAKOV, B.N., KUZE, S.K.

[Tuberculosis; bibliographical index of the Soviet literature for the period 1957-1960] Tuberkuloze; padomju literaturas bibliografisks saraksts par 1957 - 1960 gadiem. Tuberkulez; bibliograficheskii ukazatel' otechestvennoi literatury za 1957-1960 gody. Riga, 1962. 368 p. (MIRA 17:5)

1. Riga. Republikaņiska zinatniska medicinas biblioteka.



IVANKIN, P.F., doktor geologo-mineralogicheskikh nauk; KUZEBNYY, V.S.,  
kandidat geologo-mineralogicheskikh nauk.

Methods for petrographic and mineralogical study of ore zones  
in the Irtysh Valley. Vest. AN Kazakh. SSR 13 no.6:22-32 Ju  
'57.

(Irtysh Valley--Ore deposits)

(MLBA 10:9)

KUZEBNYY, V.S.; PEKLISTOV, I.K.; UTROBIN, A.I.

Remarks about T.A. Rumiantseva's articles on the Rukha deposit.  
Izv. AN Kazakh. SSR. Ser. geol. no. 4: 108-113 '58. (MIRA 12:4)  
(Altai Mountains--Geology)  
(Rumiantseva, T.A.)

KUZNEBNYY, V.S.

Relationship of dike and skarn rock formations as exemplified  
in the southeastern part of Kuznetsk Ala-Tau. Trudy Alt.G-MII  
AN Kazakh.SSR. 6:65-76 '58. (MIRA 12:1)  
(Kuznetsk Ala-Tau--Rocks, Igneous)

IVANKIN, P.F.; KUZEBNYY, V.S.; INSHIN, P.V.

Contact changes as indications in ore prospecting as exemplified by the exploratory work in the Irtysh Valley portion of the Altai ore region. Trudy Alt.GMNII AN Kazakh,SSR 8: 84-93 '60. (MIRA 13:7)

(Irtysh Valley--Ore deposits)  
(Prospecting)

VOROB'YEV, Yu.Yu.; IVANKIN, P.F.; KUZEBNYY, V.S.; LIKHODED, R.Yu.

Relationship between the hydrothermal metamorphism and  
sulfide mineralisation in the Berezovskiy-Belousovskiy ore  
region. Trudy Alt.GMNI AN Kazakh.SSR 8:126-145 '60.

(Altai Mountains--Sulfides)  
(Metamorphism(Geology))

(MIRA 13:7)

IVANKIN, P.F.; KUZEBNTY, V.S.

Upper age limit and depth of formation of ore in the Nikolayevsk  
deposit in the Altai. Vest.AN Kazakh.SSR 16 no.1:36-43 Ja  
'60. (MIRA 13:5)  
(Altai Mountains--Ore deposits)

IVANKIN, Petr Filippovich, doktor geologo-miner. nauk; INSHIN, Pavel  
Viktorovich; KUZEBNYI, Valentin Stepanovich; POGOREV, A.S.,  
red.; ALFEROVA, P.F., tekhn. red.

[Ore formations of the Rudnyy Altai] Rudnye formatsii Rudnogo  
Altaia. Alma-Ata, Izd-vo Akad.nauk Kazakhskoi SSR, 1961. 285 p.  
(Altai Mountains--Ore deposits) (MIRA 15:2)

KUZEBNYY, V.S.; BADALOV, B.P.; POLTOBYKHIN, P.I.

Types of fold structures in the southwestern wing of the Alatau anticlinorium in the Rudnyy Altai. Geol. i Geofiz. no. 2: 83-92, 1963. (MIRA 16:5)

1. Gornometallurgicheskiy nauchno-issledovatel'skiy institut, Ust'-Kamenogorsk.

(Altai Mountains--Folds (Geology))



Altai Mts. V.S.

Origin of ancient volcanic formations in the northwestern part  
of the Altai Mts. Trudy Lab. paleovulk. Kazakh. gos. un.  
no. 56:178-188 '63. (MIRA 1636)

1. Altayskiy nauchno-issledovatel'skiy institut Alt. Kazakhskoy  
SSR.  
(Altai Mountains--Volcanoes)

1. V. ...

... in the ... of ...  
... ..

БУДАНОВ, В.С.; БАЙМАКОВ, В.И.

Devonian volcanic formations in the northwestern part of the  
Irtysk Valley. Trudy lab. paleovulk. Kazakh. gos. un. no.2:  
54-67 1963. (MIRA 17:1.)

I. Almyskiy Institut AN Kazakh.

IVANKIN, P.F.; INSHIN, P.V.; KUZEBNYI, V.S.

Genetic types of quartzites in the Rudnyy Altai. Trudy Alt.(MNII  
AN Kazakh.SSR 16:46-56 '63.

(MIRA 17:10)



IVANKIN, P.F.; KUZEBNYY, V.S.; VEDERNIKOV, P.G.

Skarn deposits in the northwestern part of the Rudnyy Altai.  
Trudy Alt.GMNI AN Kazakh.SSR 16:81-92 '63.

(MIRA 17:10)

10. 11. 12, 13.

Characterization of the development of Devonian  
the northwestern part of the Kuz'nyy Altai. Sp. 1. 1. 1. 1.  
139-144 Jo 144 (1. 1. 1. 1.)

1. Al'tay'skiy otdel Instituta geol. i neftekhim. i tsvet. met.

KOTASEK, Alfred, Doc. Dr.; KUZEL, Dobremil, Dr.; FILIP, Jan, Dr., PAPEZOVA, Ruzena

Fibrinogen changes in labor and pregnancy. Cesk. gyn. 22[37] no.1/2:  
70-74 Jan 58.

1. I. por. klinika KU v Praze, prednosta prof. Dr Karel Klauun. I. int.  
klinika KU v Praze, prednosta prof. Dr Milos Netousek. A. K., Praha 2,  
Anolinaraska 18.

(FIBRINOGEN,  
in labor & pregn. (Cz))  
(LABOR, blood in  
fibrinogen level (Cz))  
(PREGNANCY, blood in  
same)



KUZEL, Dobromil, MUDr.; TRNKA, Václav, MUDr.

Two cases of vaginal myoma. Cesk. gyn. 22[37] no.1/2:74-76 Jan 58.

1. I. gyn. klinika KU v Praze, prednosta prof. Dr Karel Klaus. D. K.,  
Praha 12, Premyslovska 24.  
(VAGINA, neoplasms  
leiomyoma (Cz))  
(LEIOMYOMA, case reports  
vaginal (Cz))

KUZEL, D.

CZECHOSLOVAKIA / General Problems of Pathology. Tumors. Human U-4  
Neoplasia.

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 94067

Author : Kuzel, Dobronil; Trnka, Vaclav

Inst : Not given

Title : Two Cases of Myoma of the Vagina.

Orig Pub : Ceskosl. Gynackol., 1958, 23-37, No. 1-2, 74-79

Abstract : Two cases of myoma of the vagina are described in women 35 and 40 years old. In the first patient the tumor was localized in the lateral wall of the vagina, and in the second patient in the left fornix of the vagina. Histology in both patients disclosed leiomyoma. --From the authors' abstract.

Card 1/1

KUZEL, Dobromil, MUDr. (Praha 12, Premyslovska 24.)

Personal experience with the antitumor antibiotics sarkomycin & sanamycin.  
Cesk. gyn. 23 [37] no.3:215-217 Apr 58.

1. I. gyn. klinika KU v Praze, prednosta prof. Dr. K. Klaus.

(ANTIBIOTICS, ther. use

sarkomycin & actinomycin C as antitumor ther. of ovarian &  
cervical cancer.

(CYTOTOXIC DRUGS, ther. use

sarkomycin & actinomycin C in ovarian & cervical cancer (Cz))

(OVARIES, neoplasms

ther., sarkomycin & actinomycin C (Cz))

(CERVIX NEOPLASMS, ther.

sarkomycin & actinomycin C (Cz))

KOTASEK, Alfred; KUZEL, Dobromil

On the significance of fibrinolysis in labor hemorrhage. Cesk.  
gyn. 24[38] no.8:599-601 0 '59

1. I. por. kl. KU, Praha, prednosta prof. dr. Karel Klaus.  
(HEMORRHAGE POSTPARTUM blood)  
(FIBRINOLYSIS)

KUZEL,D.; KOBILKOVA,J.; NEUGEBAUEROVA, L.; CERVENKA, J.; CECHE,E.

Effect of prolonged pregnancy on development of the fetus.  
Cesk. gynek. 29 no.4:281-283 My'64

I. Gyn.-per. klin. fakulty vseobecneho lek. KU [Karlovy university] v Praze (prednosta: prof. dr. K.Klaus, DrSc.)  
a II. det. klin. fakulty det. lek. KU [Karlovy university] v Praze (prednosta: prof. dr. J.Houstek, DrSc.).

CERVENKA, J.; KOTASEK, A.; KOBILKOVA, J.; KUZEL, D.; STRIBNY, J.

Cytology and urocutology in pregnant subjects with late gestoses. Cesk. gynek. 29 no.4:284-289 My'64

1. I. gyn.-por. klin. fak. vseob. lek. KU [Karlov university]  
v Praze; vedouci: prof. dr. K.Klaus, DrSc.

KOBILKOVA, J.; CERVENKA, J.; CECH, E.; KUZEL, D.; SKRIVAN, J. Materat.  
spoluprace : DRDKOVA, S.

Biological preparation for labor in women with untimely and  
premature amniotic fluid flow. Cesk. gynek. 29 no.4:273-276  
My'64

1. I. gyn.-por. klin. fakulty vseobecneho lek. KU [Karlovy  
university] v Praze; prednosta: prof. dr. X.Klaus, DrSc.

KOTASCH, A.; STASTNY, J.; KUBEL, D.; BREJTEK, M.; JHA, Z.; CERNY, J.

The estrogen level in the prognosis of the fetus in women with late toxemias. Cesk. gynek. 29 no.5:478-482 1964.

1. Gyn.-por. klin. fak. vseob. lek. Karlovy University v Praze (prednosta prof. dr. E. Klaus, info.).



KOPILKOVA, A., XXXXX, XXXXX, XXXXX, XXXXX.

Cytological examination of cervical intraepithelial neoplasia and tumor induction. Czech. gynec. 20: 657-664, 1974.

1. Gyn. por. klin. foz. vnech. lek. fakult. University of Prague (presented to prof. dr. A. Kaban, 1974).

DAMMER, L.; FIEBIGER, F.; KUMMER, D.

Contribution to hypofibrinogenemia hemorrhage during labor and abortion. Vnitřní lek. II no. 2:168-174 F 1965

I. II. vnitřní klinika pr. f. Dr. Barles; II. porodnicko-gynekologická klinika prof. Dr. Lukase a I. porodnicko-gynekologická klinika prof. Dr. Kluge.

ZOBILKOVA, J.; KUZEL, D.; CECH, E.; CECHEKA, J.

Difficulties with hormonal cytodiagnostics. Gask. zvezk. 44 no.3:  
174-177 Apr 65.

I. I. gyn.-por. klinika fakulty všeobecného lékařství Karlovy  
University v Praze (prednosta: prof. dr. K. Klus, Dr.Sc.).

ČERNÝ, J.; KOTASEK, A.; KUZEL, D.

Our experiences with the Kittrich method for proof of amniotic fluid flow. Cesk. gynek. 44 no.3:206-209 Ap'65.

1. I. gyn.-por. klinika fakulty všeobecného lékařství Karlovy University v Praze (prednosta: prof. dr. E. Klaus, DrSc.).

Haematology

CZECHOSLOVAKIA

UDC 618.36:612.115.3(:577.156.6)

HERMANŠKA, Z.; KUZEL, D.; VANEČKOVÁ, H.; Central Hematological Laboratory, Faculty Hospital (Ústřední hematologická laborator Fakultní nemocnice), Prague, Head (Vedoucí) Dr M. SUCHAN; 1st Gynecological Clinic, Faculty of General Medicine, Charles University (I. Gynekologicko-Porodnická klinika Fakulty Všeobecného lékařství KU), Prague, Head (Prednosta) Prof Dr K. KLÁUS.

"Basic Notions of the Fibrinolytic System in Placental Blood Circulation."

Prague, Casopis Lékaru Ceských, Vol 105, No 39, 23 Sep 66, pp 1044 - 1046

Abstract [Authors' English summary modified]: Acceleration of fibrinolysis in some pathological conditions in adults is compared to fibrinolysis in blood vessels in the placenta. The occurrence in the placenta is, however, physiological not pathological. Causes of these physiological changes are discussed. 5 Figures, 1 Table, 13 Western, 4 Czech references. 1/1

KUZEL K.  
(1791)

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927930011

Chemických Laboratori Státního Balneologického Ústavu v Mariánských Lázních. Nase určování kyslíčnicku uhličitého v minerálních vodách Determination of carbon dioxide in mineral waters Casopis Lékaru Ceských 1948, 87/27-28 (806-807) Graphs 1  
The mineral water is neutralized with NaOH or Ba(OH)<sub>2</sub> in excess and the NaOH surplus is titrated back with an acid employing phenolphthalein as an indicator.  
Zadina - Prague

SO: Excerpta Medica, Vol. 11, No. 4, Sect. 11 - April 1949

KUZEL, K.

Determination of oxalic acid in blood and in urine. Lek. listy  
Brno 7 no.8:203-206 15 Apr 1952, (CLML 22:2)

1. Of the Central Laboratory (Head--Karel Kuzel, M. D.) of the  
Institute of Balneology, Mariánské Lázně.

CZECHOSLOVAKIA/Human and Animal Physiology - Excretion.

V-6

Abs Jour : Ref Zhur - Biol., No 2, 1958, 8738

Author : Karel Kuzel

Inst :

Title : The Stability of the Composition of the Urine in Connection with Urinary Calculi

Orig Pub : Fysiatr. vest., 1957, 35, No 2, 106-108

Abstract : Described are the substances and factors stabilizing the composition of the urine in patients with urinary calculi, as well as an artificial means of increasing the stability of the urine by the injection of foreign colloid substances.

Card 1/1

KUZEL, Karel; PAVLICKOVA, Irena; SEBESTA, Zdenek

Excretion of colloidal nitrogen and of electrolytes in standard diet; urine stability in urolithiasis. II. Cas. lek. cesk. 96 no.29: 923-926 12 July 57.

1. Vyskumný ústav balneologický, pracoviště v Mariánských Lázních, veditel prof. MUDr. Karel Prerovsky.

(URINARY TRACT, calculi

ther., diet, eff. on colloidal nitrogen & electrolyte excretion (Cz))

(NITROGEN, in var. dis.

urinary calculi, eff. of diet on excretion (Cz))

(DIETS, in var. dis.

urinary calculi, eff. on colloidal nitrogen & electrolyte excretion (Cz))

(BODY FLUID BALANCE, in var. dis.

urinary calculi, eff. of diets on electrolyte excretion (Cz))



"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927930011-9

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927930011-9"

KUBIK, A.; P. J. TAL, K.

Determination of the total content of water in the body. I.  
Use of naphthoresorcinol for the determination of 4-aminoanti-  
pyrine and N-acetyl-4-aminoantipyrine in the serum and urine.  
Ces. lek. cesk. 103 no.41:1137-1141 1964.

1. Vyzkumny ustav pro fyziatrii, balneologii a klimatologii,  
Marianske Lazne (reditel prof. dr. K. Prerovsky).

9

PH

Effect of preliminary illumination on the conductivity and photoconductivity of cuprous oxide. Samuel Klier, Radomir Kulec, and Josef Pastřák (Charles Univ., Prague). J. Phys. 5, 421-4 (1965) (in Russian); J. Mat. Sci. 4, 46, 8371. The cond. ( $C$ ) and photocond. ( $P$ ) at temps. ( $T$ ) from  $-120$  to  $+150^\circ$  were measured of samples of  $\text{Cu}_2\text{O}$  (1 mm. thick) prep'd. in a described manner. The plotted  $C$  of a certain sample (I) was in accord with the equation  $C = C_0 e^{-E/kT}$ , where  $E$  varies from 0.456 e.v. at  $20^\circ$  to 1.55 e.v. at  $450^\circ$ ,  $k$  is Boltzmann's const., and  $C_0$  is a const. After 4 hrs. exposure to intense light from a Hg lamp the  $C$  at  $20^\circ$  was over 4 times its previous value.

The given equation was applicable at temps. up to  $70^\circ$ , but  $E$  at  $20^\circ$  was 0.334 e.v. From  $70$  to  $130^\circ$   $C$  decreased; at  $T$  above  $130^\circ$   $C$  was equal to its previous value and remained so on cooling to  $20^\circ$ . A stable increase of  $C$  could be obtained with light of wave length  $0.7-0.85 \mu$  but not with ultraviolet light. The  $P$  at  $20^\circ$  was measured of a sample (II) which had been heated 2 hrs. at  $130^\circ$  and slowly cooled;  $P$  was plotted as a function of the wave length of the incident light. Max. of  $P$  were observed having relative values of 112, 165, and 270 at  $0.63$ ,  $0.75$ , and  $0.85 \mu$ , resp. After 10 hrs. exposure of II to strong light max. were observed at the same wave lengths, but the corresponding values of  $P$  were 100, 85, and 100. At  $130^\circ$ , when a sample was exposed to light of moderate intensity, its  $C$  rose; when the exposure ceased,  $C$  fell to its original value. The rise and fall of  $C$  were both exponential; the time const. was about 3 sec. for each, as is shown graphically. These effects may be due to metastable levels of attachment in the forbidden zone as well as the normal lattice defects.

J. W. Lowenberg, Jr.

STW

*KUZEL, RADOMIR*

CZECHOSLOVAKIA/Electricity - Semiconductors

G-3

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12224

Author : Pastrnak, Josef., Kuzel, Radomir

Inst : Physics Institute of Karlovy University, Prague, Czechoslovakia.

Title : Effect of Illumination on the Conductivity and Photoconductivity of Cuprous Oxide.

Orig Pub : Askosl. casop. fys. 1956, 6, No 2, 170-187

Abstract : Description of the technology for obtaining specimens of  $Cu_2O$  for the performance of experiments. The electric conductivity is measured by the probe method. It is shown, that at high temperatures (70 -- 90°) there is no observed exponential law of variation of conductivity with temperature. If the specimen was illuminated, its conductivity began to increase to saturation, which took place at room

Card 1/2

CZECHOSLOVAKIA/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 12224

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000927930011

temperature within four hours. When a specimen is heated to temperatures in the range 130 -- 200°, the electric conductivity diminishes. Upon illumination, the electric conductivity again increases. Simultaneously, an investigation was made of the photoconductivity on these "heated" and "illuminated" specimens.

Card 2/2

Effect of illumination on the conductivity and photocon-  
ductivity of cuprous oxide. Josef Pastrňák and Radomír  
Kučel (Czech. Acad. Sci., Inst. Phys., Prague, Czechoslovakia). J. Phys. 6, 217-23 (1956) (In Russian; English summary). — Crystals of  $\text{Cu}_2\text{O}$  were prep. by the method of Blankenburg and Kassel (C.A. 47, 374f). Photocond. was measured at temps. from  $-120^\circ$  to  $250^\circ$  and a few samples at  $450^\circ$  with the rate of heating at  $0.5^\circ/\text{min}$ . Photo-potentials were measured with an electrostatic voltmeter. The logarithm of cond. as a function of temp. was linear up to  $50^\circ$ . At higher temps. the cond. decreased and at  $150^\circ$  it reached the initial value at room temp. Illumination of the sample resulted in a permanent increase in the cond., contrary to the conclusions of Angello (cf. C.A. 37, 292). On the basis of the results the authors propose a model according to which the  $\text{Cu}_2\text{O}$  must be considered as a semi-conductor in which lattice defects, viz. the cond. in the dark attained on heating or illumination an equil. between the assoc. complexes and the disocd. centers. Illumination shifted the balance in the equil. in favor of the disocd.

centers, and the assoc. centers served in the conduction mechanism as traps. 19 references. A. P. K.

KUZEL, R.

CZECHOSLOVAKIA/Electronics - Semiconductor Devices and Photocells H-6

Abstr Jour : Ref Zhur - Fizika, No 4, 1959, No 8754

Author : Kuzel Radomir  
Inst : Mathematics-Physics Faculty, Karlov University, Prague.  
Czechoslovakia  
Title : Effect of Preliminary Illumination on the Characteristics  
of Copper-Oxide Rectifiers

Orig Pub : Ceskosl. casop. fys., 1957, 7, No 6, 702-719

Abstract : The author investigated the effect of preliminary illumination and heating to approximately  $150^{\circ}\text{C}$  on the volt-ampere characteristics, capacitance of the barrier layer, and the concentration of the acceptors in the barrier layer of copper-oxide rectifiers. The distribution of the concentration of the acceptors was determined with the Schottky method from the slope of the lines representing the variation of the capacitance with the voltage (dc). Prior illumination increased the current both in the forward and in the backward direction, and the rectification coefficient was

Card : 1/2

CZECHOSLOVAKIA/Electronics - Semiconductor Devices and Photocells H-6

Abstr Jour : Ref Zhur - Fizika, No 4, 1959, No 8754

increased thereby. The heating exerted an opposite action, i.e., the capacitance of the barrier layer and the concentration of the acceptors decreased in it, and increased after prior illumination. All the experimental results are well explained on the basis of the suggested association and dissociation of the centers, proposed by Rostninsk and the author previously (Referat Zhur Fizika, 1957, No 5, 12224; No 7, 17595) and thus give a new confirmation of the premises developed in the foregoing paper. -- M.Y. Vasilchenko

Card : 2/2

*Kuzel, R*

CZECHOSLOVAKIA/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 10, 1958, No 23216

Author : Kuzel Radomir  
Inst : Physics Institute, Karlov University, Prague, Czechoslovakia  
Title : Influence of Irradiation by X-rays on the Electric Conductivity  
of Cuprous Oxide

Orig Pub : Coskosl. casop. fys., 1957, 7, No 6, 745-746

Abstract : An investigation was made of the temperature dependence of photoconductivity that occurs in  $\text{Cu}_2\text{O}$  under the influence of X-rays with a generation voltage of 37 kv. Curves are given for the kinetics of the photocurrent at 75°C, and also for the dependence of the saturation current on the temperature for various intensities of excitation. The maximum of the photocurrent lies in a region of 700C and shifts somewhat towards higher temperatures as the X-ray intensity increases. All the indicated laws are observed in visible light, which, in the author's opinion, indicates that the mechanisms of photoconductivity in light and in X-rays are identical.

Card : 1/1

Distr: 453d

Influence of X-ray irradiation on the electric conductivity of copper oxide. Radumy Kulev, Cacchillon, J. Phys. 7, 707-6 (1957).—In a previous investigation (C.A. 51, 66424) it was found that the elec. cond. of  $\text{Cu}_2\text{O}$  decreases after heating to  $130^\circ$ , and increases after irradiation with visible light. The phenomenon was explained by the (heat)-induced or (light)-induced of lattice imperfections of  $\text{Cu}_2\text{O}$ . According to this interpretation, any radiation with  $\lambda < 1 \mu$  should increase the cond. of  $\text{Cu}_2\text{O}$ . X-ray irradiation (at  $75^\circ$ , with 37 kv. tube voltage) was found to cause an increase of the  $\text{Cu}_2\text{O}$  cond. B. Ryshkevitch.



CZECHOSLOVAKIA/Electronics - Semiconductor Devices and Photo cells H-9

Abj Jour : Ref Zhur - Fizika, No 4, 1959, No 8755

Author : Kužel Radomir

Inst : -

Title : Effect of Prior Illumination on the Characteristics of  
Copper-Oxide Rectifiers

Orig Pub : Zhukhosl. fiz. zh., 1959, 6, No 1, 81-89

Abstract : See Abstract 3756

Card : 1/1

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000927930011-

24,2/30

S/194/62/000/005/066/157  
D295/D308

AUTHOR: Kužel, Radomir

TITLE: The effect of preillumination on the electrical properties of cuprous oxide and on the characteristics of cuprous oxide rectifiers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, abstract 5-4-24 ya (Direct Current, v. 6, no. 6, 1961, 172-179, 181)

TEXT: Describes at length the method and results of a detailed investigation of the variations of the electrical properties of cuprous oxide and of the characteristics of cuprous oxide rectifiers caused by illumination and by the action of increased temperature (up to  $\sim 150^{\circ}\text{C}$ ). Samples prepared from Chilean copper according to a conventional technological procedure were investigated. The increase of the electric conductivity of cuprous oxide as a result of illumination was mainly due to the action of 0.9  $\mu$  wavelength radiation penetrating deep into the samples. The verification of temperature variations of electric conductivity and Hall constant has confirmed

Card 1/2

The effect of preillumination on ...

S/194/62/000/005/066/157  
D295/D308

the hypothesis of the association of vacant Cu ion nodes, which are the main type of lattice defects, and which form adhesion levels in the temperature range investigated, similarly to the F-centers in alkaline metals. Measurements of the current-voltage characteristics and of the capacitance of cuprous oxide rectifiers, in which preillumination had produced an increase of conductivity in both directions with simultaneous increase of the rectification coefficient by approximately 50 %, have shown that in contrast to cuprous oxide, the illumination of preheated samples will not lead, in the case given, to an increase in concentration of acceptor levels to the initial value, owing to diffusion of ions from matrix copper. 22 references (Charles University, Czechoslovakia). [Abstractor's note: Complete translation]. X

Card 2/2

1 10915-66 EWP(a)/EWP(t)/EWP(b) IJP(c) JD/WH

ACC NR: AP6002038

SOURCE CODE: GE/0030/65/012/002/0697/0705

AUTHOR: Prosser, V.; Kuzel, R.

ORG: Department of Solid State Physics, Charles University, Prague

TITLE: Determination of parameters of complex energy bands in semiconductors from studies of free carrier Faraday rotation, Voigt effect, and transport properties

SOURCE: Physica status solidi, v. 12, no. 2, 1965, 697-705

TOPIC TAGS: semiconductor, Voigt effect, Faraday effect, energy band, band theory, Hall effect, *semiconducting material, magneto-optics, transport property, semiconductor carrier*

ABSTRACT: In view of the recently developed sensitive double-beam method which makes it possible to measure angles of rotation of the plane of polarization of the order of  $10^{-2}$  degrees with good accuracy, the authors suggest that experimental magneto-optical data be used with data on transport properties to determine fundamental parameters of semiconductors with complex bands. The authors then derive general formulas for the Faraday rotation and the Voigt effect for the case of one type of carriers and several types of carriers and discuss the relationship between these phenomena and the general transport properties. The general formulas are then applied to the case when the valence band consists of three subbands. The theoretical data for diamond and germanium are compared with the experimental results. It is concluded that in the case of complex bands the Faraday rotation and the Voigt effect give valuable information in addition to the data obtained

Card 1/2

L 10915-66

ACC NR: AP6002038

from transport properties. The simultaneous investigation of optical and transport phenomena over sufficiently large ranges of wavelength, temperature, and carrier concentration should make it possible to separate different scattering mechanisms as well as contributions of interband transitions to the magnetooptical dispersive effects. Orig. art. has: 19 formulas and 2 figures. [CS]

SUB CODE: 20 / SUBM DATE: 21Sep65/ ORIG REF: 001/ OTH REF: 017/  
ATD PRESS: 4170

Card 2/2

L 22627-66 EWP(t) IJP(c) JD

ACC NR: AP6003656

SOURCE CODE: CZ/0055/65/015/010/0709/0717

AUTHOR: Kuzel, R.

ORG: Faculty of Mathematics and Physics, Charles University, Prague

TITLE: The influence of pre-illumination on the work function of cuprous oxide

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 15, no. 10, 1965, 709-717

TOPIC TAGS: cuprous oxide, work function, electric conductivity, capacitor, *electrode*

ABSTRACT: The author describes measurements of the effect of illumination and heat treatment on the electrical conductivity of cuprous oxide. The main objective of his experimental study was to confirm earlier findings, namely, that the large change of electrical conductivity of  $\text{Cu}_2\text{O}$  caused by illumination is not connected with a permanent change of the electron work function and, consequently, the electric conductivity increase due to illumination is a pure bulk effect. These findings, now confirmed, represent a correction of a theory valid until 1956, attributing the change of conductivity to surface properties. The investigation, in which samples of cuprous oxide with either ground or etched surfaces were used, were conducted by the author at the Faculty of Physics in Leningrad. The contact potential difference was measured by means of the vibrating capacitor method, designed by two Soviet physicists O. M. Artamanov, and R. Ya. Berlaga, at the Leningrad's Faculty of Physics. In the process the cuprous oxide sample was employed as one electrode of the capacitor

Cord 1/2

L 22627-66

ACC NR: AP6003656

4

while a gold-plated brass electrode was used as reference electrode. Simultaneously with the measuring of the contact potential the electrical resistance of the sample was examined by a d-c method. Graphs of the principal measured dependences are given. The author expresses his gratitude to R. Ya. Berlaga and O. M. Artamonov, Faculty of Physics of Leningrad, for making it possible to use their apparatus, and to E. Klier for valuable comments and discussions. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 25Feb65/ ORIG REF: 005/ OTH REF: 006/ SOV REF: 005/

Card 2/2 BLG

KUZEL', R. V.

USSR/ Scientists - Mechanical engineering

Card 1/1 : Pub. 128 - 34/38

Authors : Stechkin, B. S.; Varshavskiy, I. L.; Velikanov, D. P.; Gol'd, B. V.;  
Kuzel', R. V.; Petrov, V. A.; Fal'kevich, B. S.; and Khrvshchov, M. M.

Title : Academician Evgeniy Alekseevich Chudakov, an outstanding scientist in  
the field of Soviet mechanical engineering

Periodical : Vest. mash. 9, 100-102, Sep 1954

Abstract : A short biography is presented of the life-time activities and achievements of Evgeniy Alekseevich Chudakov in mechanical engineering. The article was presented on the occasion of the first anniversary of his death.

Institution : .....

Submitted : .....

KUTELA, K.

Mobile ventilator in the sales departments of the "International Women's Day," 8th of March" National Enterprise. p. 83.

(Textil. Vol. 12, no. 3, Mar. 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (SEAL) LC, Vol. 6, no. 10, October 1957. Uncl.



KUZELA, Ladislav

Adrenal cortex in haemorrhagic shock. Lek. prac. (Biol. lek.)  
3 no.8:1-72 '63.

\*

KUZELA, L.

DOBROTA, S.; KUZELA, L.

Streptokinase and streptodornase; treatment of hematomas, abscesses and chronic suppurations. Bratisl. lek. listy 34 no.5:532-538 May 54.

1. Zo seminara II. chir. Kliniky LFSSU v Bratislave, prednosta clen koresp. SAV. prof. dr K.Siska.

(STREPTODORNASE AND STREPTOKINASE, therapeutic use, hematomas & suppurative dis.)

(HEMATOMA, therapy, streptodornase & streptokinase)

(ABSCZESS, therapy, streptodornase & streptokinase in suppurative dis.)

DOBROTA, S.; KUZELA, J.

Result of local therapy of pulmonary abscesses. Bratisl. lek.  
listy 35 no.10:611-618 1955.

1. Z II. chirurgickej kliniky LFUK v Bratislave, predn. cler  
koresp. SAV K. Siska.

(LUNGS, abscess,  
ther.)

(ABSCCESS,  
lungs, ther.)

EXCERPTA MEDICA Sec.9 Vol.11/9 Surgery Sept 1957

4548. KUŽELA L. and MIKULAJ L. 2. Chir. Klin. LFUK, a Endokrinol. Úst. SAV, Bratislava. \*Vplyv narkózy na funkciu kôry nadobličiek a metabolismus kortikosteroidov. II. Účinok prolongácie a premedikácie. The influence of anaesthesia on the function of the adrenal cortex and on the cortico-steroid metabolism. II. The effects of prolongation of anaesthesia and of premedication BRATISLAVSKE LEKÁRSK. LISTY 1956, 36(II)/10 (577-582) Graphs 4

The prolongation of anaesthesia (up to 240 min.) did not show an increasing effect on the adrenocortical function expressed by the values of 17-hydroxycorticoids in the plasma. Premedication was clearly manifested by depressive influence on the central nervous regulation of the hypophysio-adrenocortical function. Comparison of the imposed operational trauma with the curves of values of 17-hydroxycorticoids during anaesthesia in the same dogs showed that anaesthesia in its first phase represents the maximal stress on the adrenocortical function.

KUZELA, L.; KRAJCOVIC, L.; SCHRAMM, A.

Duplication of the large intestine. Bratisl. Lek Listy 42 no.6:  
353-358 '62.

1. Z II chirurgickoj kliniky Lek. fak. Univ. Komenského v Bratislave,  
prednosta akademik SAV K. Siska.  
(COLONIC DISEASES) (UTERUS)

SISKA, K.; KUZELA, L.; MIKULAJ, L.

Adrenal cortex activity during extracorporeal blood circulation. Bratisl. lek. listy 63 no.3:143-148 '63.

1. II chirurgická klinika Lek. fak. Univ. Komenského v Bratislave, vedúci akademik K. Siska. Endokrinologický ústav SAV v Bratislave, riaditeľ MUDr. J. Podoba, C.Sc.

(HEART, MECHANICAL) (HEART SURGERY)

(HEART DEFECTS, CONGENITAL)

(ADRENAL CORTEX HORMONES)

(BLOOD CHEMICAL ANALYSIS)

(ADRENAL CORTEX HYPOFUNCTION)



1. KUMILEV, M. A.
2. USSR (600)
4. Technology
7. Handbook for a master founder. Moskva, Mashgiz, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Unclassified.



F

1237. REPLACING SILICA BRICK BY CHROME-MAGNESITE REFRACTORIES IN MARTIN FURNACES. Revenko, W. V. and Kuzele, M. I. (Ogneupory 1945, No. 2-3, 31-6; Ceram. Abstr. 1946, 22, 11). The use of thermally stable chrome-magnesite refractories instead of silica brick in crowns of Martin furnaces has been found possible. Crowns containing the former refractories did not require as many hot repairs as those containing silica brick. The quality of thermally stable chrome magnesite, however, should be improved.

R

22

*B*

**Use of Firebrick in Open-Hearth Back Walls.** M. Ya Kuznelev and A. A. Skvortsov. Henry Brutscher (Alameda, Calif.). Translation No. 2103, 1948, 10 pages. From *Ogheupory* (Refractory Materials), v. 12, no. 4, 1947, p. 174-179.

Presents results of study on partial substitution of firebrick for basic refractories. Calculates heat losses and brick cost for 5 different semi-sloping back walls. Includes data charts on temperature distribution, relative effectiveness and cost of asbestos sheet vs. firebrick for insulation, and on service performance of firebrick plus magnesite brick. Lists advantages of use of firebrick in open-hearth back wall.

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUZELEV, M. YA., Engr

PA 17/49T36

USSR/Engineering  
Furnaces

Nov 48

"Results of Tests on Furnaces Having Revolving Walls,"  
A. A. Skvortsov, Cand Tech Sci, M. Ya. Kuzelev, Engr,  
2½ pp

"Vest Mashinostroy" No 11

Describes construction of revolving wall furnace, with  
three sketches. Trial figures show it is more  
economical than spectacle furnace for certain work.

17/49T36

KUZELEV, M.Ya.; SKVORTSOV, A.A.; SMELYAKOV, N.N. [authors]; OKUN', M.A. [reviewer].

Response to M.IA.Kuzelev's, A.A.Skvortsov's, and N.N.Smeliakov's book  
"Foundry master's manual." Reviewed by M.A.Okun'. Kryn. rod. 4 no.8:  
p.3 of cover. Ag '53. (MLRA 6:7)  
(Founding) (Kuzelev, M.IA.) (Skvortsov, A.A.) (Smeliakov, N.N.)

~~RUZELNY~~ Mikhail Yakovlevich; SKVORTSOV, Aleksey Anatol'yevich; SMENYAKOV, NIKOLAI NIKOLAYEVICH; ZOBNIY, B.P., kandidat tekhnicheskikh nauk, redtsent; BORTSKIY, A.A., dotsent, otvetstvennyy redaktor; VOLFYANSKIY, L.M., inzhener, redaktor; GIMMELMAN, N.R., inzhener, redaktor; DEMAKOV, A.F., inzhener, redaktor; ZAKHAROV, B.P., inzhener, redaktor; ZVANNY, K.M., inzhener, redaktor; KOKOVINA, A.S., inzhener, redaktor; KESTEROV, B.A., inzhener, redaktor; RAZUMOVA, M.S., inzhener, redaktor; SIDORENKO, R.A., inzhener, redaktor; ROZENBERG, I.A., kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A., tekhnicheskiiy redaktor

[Foundry worker's handbook] Spravochnik rabochego-litel'shchika.  
Izd. 2-oe, dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo  
 mashinostroit. lit-ry, 1956. 634 p. (MIRA 10;4)  
(Founding)

AKIMENKO, A.D., kand. tekhn. nauk; GREEK, V.A., inzh.; KASHCHENKO, N.P.,  
inzh. KUZNELEV, M.Ya., inzh.; SKVORTSOV, A.A., kand. tekhn. nauk;  
CHUMAGIN, V.S., inzh.

Utilizing waste nitrogen from oxygen plants as a protective atmos-  
phere for metal heat treatment in furnaces. Vest. mash. 38 no.4:  
40-42 Ap '58. (MIRA 11:3)  
(Metals--Heat treatment) (Protective atmospheres) (Nitrogen)

PHASE I BOOK EXPLOITATION

SOV/4365

Kuzelev, Mikhail Yakovlevich, and Aleksey Anatol'yevich Skvortsov

Nagrev metalla pod kovku i shtampovku v plamennykh pechakh (Preheating of Metal for Forging and Stamping in Direct-Flame Furnaces) Leningrad, Sudpromgiz, 1960. 262 p. 5,700 copies printed.

Scientific Ed.: G. V. Malakhovskiy; Editor: Z. V. Ozerova; Tech. Ed.: R. K. Tsai.

PURPOSE: This book is intended for technical personnel and foremen in the forge and press-forging shops. It may also be useful to workers in design and scientific-research institutions, and to students specializing in metalworking in schools of higher education and tekhnikums.

COVERAGE: The book discusses the theory and practice of heating metal in direct-flame furnaces for forging and stamping. Selection criteria temperature ranges in pressworking of metals, and methods for calculation of the heating of steel and nonferrous metal alloys, ingots, and blanks are presented. Regimes and methods of cooling forgings

~~Card 1/6~~

Preheating of Metal (Cont.)

SOV/4865

and stampings and measures for preventing loss and decarburization of metal during heating are described. No personalities are mentioned. There are 53 references, all Soviet (including one translation from German).

TABLE OF CONTENTS:

Introduction	3
Ch. I. Physical and Mechanical Properties of Metals and Alloys at Various Temperatures	5
1. Basic considerations	5
2. Coefficient of heat conductivity	6
3. Enthalphy and heat capacity	13
4. Volumetric (unit) weight	20
5. Coefficient of the temperature conductivity	25

~~Card 2/6~~



S/182/60/000/011/012/016  
A161/A029

AUTHORS: Akimenko, A.D., Kuzelev, M.Ya., Skvortsov, A.A.

TITLE: Experimental Investigation Into Heating of Steel Blanks for Forging and Stamping in Molten Salts

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No.11, pp.40-42

TEXT: Information is given on experiments at the "Krasnoye Sormovo" works with forging blank heating in molten salt bath heated to 1,300°C. Two salt mixtures were used: a) 30% BaCl<sub>2</sub> and 70% NaCl and b) 70% BaCl<sub>2</sub> and 30% NaCl. Cylindrical specimens 10, 20 and 30 mm in diameter were heated to 1,200-1,250°C. The results confirmed the data obtained by LPI and NZL (Ref 1). The heating time is 2-3 times shorter than in a chamber furnace; heat losses from the bath surface can be reduced to minimum by using bath covers and covering the bath surface with a layer of graphite powder. The heating costs are approximately the same as in furnaces but the salt bath has technological advantages. The power characteristic of the CN-2 (SP-2) electrode bath is given (Fig 1); its efficiency at the rated work capacity of 30 kg/hour is only 20-25% and decreases abruptly with

Card 1/9

S/182/60/000/011/012/016  
A161/A029

# Experimental Investigation Into Heating of Steel Blanks for Forging and Stamping in Molten Salt

reduced load. Special baths with higher efficiency (35-40%) are possible in principle. The heat release coefficient from the liquid salt to the metal was determined in the following manner. Using the temperature diagram (Fig 2) in the specimen center,

$$\theta = \frac{(t_{\text{med}} - t_{\text{cent}})_1}{(t_{\text{med}} - t_{\text{cent}})_{\text{init}}} \quad (1)$$

where  $(t_{\text{med}} - t_{\text{cent}})_1$  is the real (varying) difference of the medium and the specimen center temperature, and  $(t_{\text{med}} - t_{\text{cent}})_{\text{init}}$  the initial difference. [Abstractor's note: subscripts <sub>med</sub> (medium), <sub>cent</sub> (center), <sub>init</sub> (initial) are translations from the Russian *sp* (sreda), *y* (tsentr), *nachal'nyy*]. Knowing the  $\theta$  values and the Fourier criterion ( $Fo$ ), the known D.V. Buzin diagrams may be used for finding the  $Bi$  (bi) criteria, but in view of low  $Bi$

Card 2/9

S/182/60/000/011/012/016  
A161/A029

Experimental Investigation Into Heating of Steel Blanks for Forging and Stamping in Molten Salt

values in the experiments (10 and 20 mm blank diameter), a formula from Ref 2 was used for the calculation:

$$\theta = e^{-2FoBi} \quad (2)$$

Using the obtained Bi value, the mean heat release coefficient  $\alpha_m$  is found in the interval from the initial to the final temperature of the center (or the surface)

$$\alpha_m = \frac{1}{\tau_2 - \tau_1} \int_{\tau_{init}}^{\tau_{fin}} \alpha_{true} d\tau \quad (3)$$

where  $(\tau_2 - \tau_1)$  is the heating efficiency. [Abstractor's note: Subscripts fin (final) and true (true) are translations from the Russian  $\kappa_{fin}$  (konechnyy) and  $\alpha_{true}$  (istinnyy)]. The mean values of the physical material constants in the given temperature interval must be substituted for calculation of

Card 3/9

S/182/60/000/011/012/016  
A161/A029

Experimental Investigation Into Heating of Steel Blanks for Forging and Stamping in Molten Salt

the Bi and Fo criteria. The determined mean heat release coefficient values are shown (Fig 3) in the form of the relation  $\alpha_m = f(t_{mean})$ .

[Abstractor's note: Subscript  $_{mean}$  is a translation from the Russian  $_{cp}$  (sredniy)]. (The diagram includes data obtained by V.F. Kopytov (Ref. 3) and D.V. Vishnyakov (Ref. 4): Vishnyakov obtained a higher heat release coefficient using pure  $BaCl_2$ .) The heating time for blanks can be calculated knowing the heat release coefficient. The calculated time ( $\tau$ ) for cylindrical blanks from 40X (40Kh) steel at  $\alpha_m = 500 \text{ kcal/m}^2 \cdot \text{hr} \cdot \text{degree}$  is given (Table 2)

Heating temperature $^{\circ}C$	Time in seconds for blanks diameters		
	30 mm	20 mm	10 mm
1,200	160	110	56
1,100	90	60	30
1,000	70	47	2

Card 4/9

S/182/6 /000/011/C12/016  
A161/AO '9

Experimental Investigation Into Heating of Steel Blanks for Forging and  
Stamping in Molten Salt

The theoretical calculation with convective heat exchange formulae in liquid media gives exaggerated figures, which can be explained by the thermal resistance of the solidified salt layer. The following conclusions are drawn: 1) the method is applicable to practice and has technological advantages; 2) the mean heat release coefficient from the bath to the metal in  $\text{NaCl} + \text{BaCl}_2$  at a bath temperature of  $1,200-1,350^\circ\text{C}$  is  $\alpha_m = 500 \text{ kcal/m}^2 \cdot \text{hour} \cdot \text{degree}$ ; 3) the obtained data make possible the calculation of heating process variables. Engineers N.P. Kushcheyeva, V.M. Kop'yev and G.N. Khoperskaya took part in the experiments. There are 4 figures and 5 Soviet references.

Card 5/9

S/192/60/CCC/011/012/016  
A161/AC29

Experimental Investigation Into Heating of Steel Blanks for Forging and  
Stamping in Molten Salt

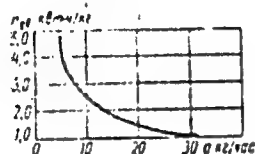


Fig. 1 - The characteristic of SP-2 bath  
at 1,250°C bath temperature:  
 $n, g$  in kWh - specific consumption of  
electric power (including heating up in  
one-shift day work);  $g$  - hourly productivity  
in kg/hour

Card 6/9

S/182/60/000/011/012/016  
A161/A029

Experimental Investigation Into Heating of Steel Blanks for Forging and  
Stamping in Molten Salt

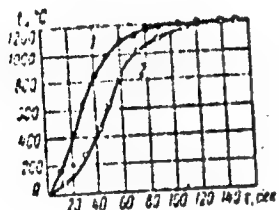


Fig. 2 - Temperature curves examples:  
1 - blank 20 mm in diameter;  
2 - blank 30 mm in diameter

Card 7/9

S/192/60/000/011/C12/C16  
A161/A029

Experimental Investigation Into Heating of Steel Blanks for Forging and  
Stamping in Molten Salt

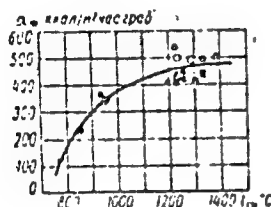


Fig. 3 - The mean heat release coefficient from molten salt bath to metal at different bath temperatures: mixture 70% NaCl and 30% BaCl<sub>2</sub>; o - specimen 30 mm diam.;  $\Delta$  - 20 mm;  $\square$  - 10 mm. Corresponding  $\times$  and  $\cdot$  signs for mixture of 30% NaCl and 70% BaCl<sub>2</sub> (x - data of V.F. Kopytov;  $\cdot$  - data of D.Ya. Vishnyakov (NaCl).)

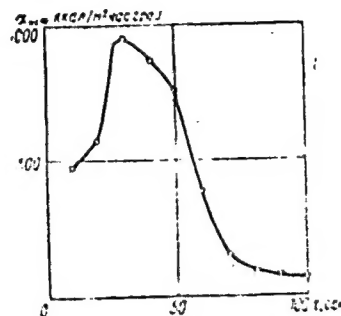
Card 8/9



S/182/60/000/011/012/016  
A161/A023

Experimental Investigation Into Heating of Steel Blanks for Forging and  
Stamping in Molten Salt

Fig. 4



Card 9/9

KUZNELEV, M.Ya.

Characteristics of heat processes in natural-gas fired furnaces for  
the nonoxidizing roasting of steel. Kuz.-shtam. proizv 4 no.6:  
36-40 Je '62. (MIA 15:6)  
(Steel--Heat treatment) (Furnaces, Heat-treating)

AKHMEENKO, A.D.; KUZELEV, M.Ya.; SKVOTSOV, A.A.; KHOLSHOLEVNIKOV, A.Ya.

Heating blanks for forging and die stamping in a nonoxidizing  
heating compartment furnace. Kuz.-shtam. proizv 4 no.6:40-45 Je  
'62. (MIFA 15:6)

(Furnaces, Heating)

KUZELEV, V.Ya.; KUZNETSOV, A.P.

Manufacturing tools in school workshops. Politekh.obuch. no.12:  
58-61 D '58. (MIRA 11:12)

1. Srednyaya shkola No.475 Moskvy.  
(Machine-shop practice--Study and teaching)